

PYTHON OVERVIEW

http://www.tutorialspoint.com/python/python_overview.htm

Copyright © tutorialspoint.com

Python is a high-level, interpreted, interactive and object oriented-scripting language. Python was designed to be highly readable which uses English keywords frequently where as other languages use punctuation and it has fewer syntactical constructions than other languages.

- **Python is Interpreted:** This means that it is processed at runtime by the interpreter and you do not need to compile your program before executing it. This is similar to PERL and PHP.
- **Python is Interactive:** This means that you can actually sit at a Python prompt and interact with the interpreter directly to write your programs.
- **Python is Object-Oriented:** This means that Python supports Object-Oriented style or technique of programming that encapsulates code within objects.
- **Python is Beginner's Language:** Python is a great language for the beginner programmers and supports the development of a wide range of applications, from simple text processing to WWW browsers to games.

History of Python:

Python was developed by Guido van Rossum in the late eighties and early nineties at the National Research Institute for Mathematics and Computer Science in the Netherlands.

Python is derived from many other languages, including ABC, Modula-3, C, C++, Algol-68, SmallTalk, and Unix shell and other scripting languages.

Python is copyrighted, Like Perl, Python source code is now available under the GNU General Public License (GPL).

Python is now maintained by a core development team at the institute, although Guido van Rossum still holds a vital role in directing it's progress.

Python Features:

Python's feature highlights include:

- **Easy-to-learn:** Python has relatively few keywords, simple structure, and a clearly defined syntax. This allows the student to pick up the language in a relatively short period of time.
- **Easy-to-read:** Python code is much more clearly defined and visible to the eyes.
- **Easy-to-maintain:** Python's success is that its source code is fairly easy-to-maintain.
- **A broad standard library:** One of Python's greatest strengths is the bulk of the library is very portable and cross-platform compatible on UNIX, Windows, and Macintosh.
- **Interactive Mode:** Support for an interactive mode in which you can enter results from a terminal right to the language, allowing interactive testing and debugging of snippets of code.
- **Portable:** Python can run on a wide variety of hardware platforms and has the same interface on all platforms.
- **Extendable:** You can add low-level modules to the Python interpreter. These modules enable programmers to add to or customize their tools to be more efficient.

- **Databases:** Python provides interfaces to all major commercial databases.
- **GUI Programming:** Python supports GUI applications that can be created and ported to many system calls, libraries, and windows systems, such as Windows MFC, Macintosh, and the X Window system of Unix.
- **Scalable:** Python provides a better structure and support for large programs than shell scripting.

Apart from the above mentioned features, Python has a big list of good features, few are listed below:

- Support for functional and structured programming methods as well as OOP.
- It can be used as a scripting language or can be compiled to byte-code for building large applications.
- Very high-level dynamic data types and supports dynamic type checking.
- Supports automatic garbage collection.
- It can be easily integrated with C, C++, COM, ActiveX, CORBA, and Java.